

FRP Techniques

How to Install Hoods

Compared to other bodywork hoods are fairly simple to install. But you still need to take as much care fitting them as you would on a tailbase or fender.

1. As with all other parts remove the hood from the packing box and carefully examine for any damage that might have occurred in transit.
2. Next prepare the hood so that it can be bolted onto the car. If there are already bolts installed in the liner make sure they screw in and out easily. Use a tap to clean up any rough threads. The standard metric bolt for most all 911 hoods is an 8X1.25X20 mm at the hinges and 6X1X20mm at the front latch. It is particularly important to have the correct bolt length. Check it if there is any doubt. Too long a bolt will go right out through the top of the hood.
3. Now bolt the hood onto the car. While this is a one man job two guys make it a little easier if this isn't something you're used to. If the car isn't going to be painted, place some towels at the corners of the cowl where the tips of the hood will rest while you line up the hinges.



PHOTO 1

Open the box and check the part as soon as you receive it.

Start by supporting the hood as shown in PHOTO 4. Hold the bottom edge of the hood with one hand, rest the hood on your shoulder for support and thread in the bolt with your other hand. Always use the bolt closest to the cowl. Once one side is on move over to the other side and install its bolt also finger tight. What I usually do now is to grab the top of the hood pull it all the way forward to the front of the car and then ease it closed. This helps prevent the tips of the hood from digging into the cowl if the shim adjustments are way off to begin.



PHOTO 2

Checking the bolt length.



PHOTO 3

Using a tap to clean up the threads



Photo 4

Installing a hood by yourself

Use one hand to support the bottom while resting the hood on your shoulder. Start the bolts with your other hand.. Support the other end on a couple of towels so the paint on the cowl doesn't get scratched.

FRP Techniques

How to Install Hoods

4. With the hood closed the first 2 adjustments will be to square up the top edge at the cowl and to align the sides to the hood rails (the flanged part of the tub where the fenders are bolted).

The seam at the cowl lines up and is adjusted, just like we did for the decklids. The gap is dependent on how thin the edge of the hood is. So it may be necessary to flip the hood over and grind a chamfer on this bottom corner. Slide the hood close enough that it doesn't bind when opening. Now check down the sides to insure that the hood rails stick out evenly on each side. **IMPORTANT.** It is critical to get the spacing perfect on the rails before you bolt on fenders.

5. Hood rails are often bent or tweaked out of shape and it is usually necessary to first tap them back in place. To do this always use a hammer and a dolly. How far they stick out past the edge of the hood will determine the fender to hood gap. Too far out and you won't be able to get a tight fender to hood seam. I prefer to always tap the rails in slightly so there is room to shim the fenders out as needed. **NOTE.** This assumes the car hasn't been hit in the front. Crash damaged cars often need a lot more work to make sure the front of the tub is still square to the chassis.

Dimensionally Getty Design hoods are perfect when they come out of the mold. You can usually see the rolled over edge exactly the way steel hoods were duplicated. Some companies have to cut or grind the edges when they detail the hood out of the mold and end up with wavy sides and really thick and square edges. Chances are if you are fitting a Getty design hood and it lines up square to the cowl but the hood rails are tweaked to one side, your chassis is bent.

6. Once the hood is centered correctly now you can worry about shimming the hinges to match the cowl. Do this exactly the same way we adjusted the decklids. Stack washers between the liner and the hinge, to raise or lower the hood as needed. Install the front 2 hinge bolts at this time also.

7. With the hood opening and closing correctly and the 4 hinge bolts tight now we can turn our attention to the front latch. You need to be careful when installing the front latch plunger. If the positioning is way off and you jam the hood closed it may be difficult to reopen. This is especially true of the plungers on pre 74, long hood models. So follow these steps carefully. It is much easier to work with the latches if the front bumper is not on, but either way works.

8. Bolt the plunger assembly to the hood. Tighten the 2, 6mm bolts only finger tight. and slowly lower the hood until the plunger just engages the receiver. At this point lightly pushing down and watching how the hood moves will be the clue to how to adjust the plunger on the hood and the receiver in the front tub.

Ideally as the hood closes it should travel straight down. If it shifts to one side then you need to move either the plunger or the receiver to compensate.



PHOTO 5
It is critical to adjust the hood rails first



PHOTO 6
With the hood square to the cowl the rails should stick out the same on each side.

FRP Techniques

How to Install Hoods

There are quite a few adjustments that can be performed here.

On the hood, the plunger can be..

1. spaced down
2. moved to the right or left
3. moved forward or backwards

On the the latch panel the receiver can be

1. slid up or down on 74 and up models
2. spaced backwards



PHOTO 7

Placing shims to bring the hood even with the cowl



PHOTO 8

A correctly shimmed hood

3. On pre 74 models the tension of the pull cable determines how the plunger is held and released.

After the hood has been correctly fit to the car, the next step is to Post Cure it. Refer to FRP TECHNIQUES for the details. Do not omit this step.

Now you will want to remove the hood to start prepping it for paint. Unlike decklids you can't just pop the 2 pivot bolts, so unbolting the hood is the only way. One way to help get everything back together the same way again is to make a note of the shims and their location and to drill 2 small 3/16 holes up through the bottom of the metal hinge into the liner. When you go to reinstall the hood slide a 3/16 drill bit into these holes to line every thing up like it was before.

Professional Tips

1. Composite hoods should be held up with prop rods. Remove and don't use the gas shocks. They put too much stress on the liner when you close the hood.
2. In most cases the interior trunk light isn't used.
3. Most race cars don't use the weatherstripping. If you are going to use the seal make all the adjustments with it in place since it will tend to hold the hood up higher.
4. On 993's the front of the hood at the latch sits about 1.5 inches than that of a regular 911. This is because the 993 latch panel is this much taller. On conversions instead of welding in the correct latch panel a spacer can be used between the hood and the latch effectively moving the hood up the correct distance.
5. Make sure to use the rubber snubbers in the latch panel to support the front corners of the hood.
6. To greatly increase the overall hood stiffness make sure the liner is glued to the top all the way

FRP Techniques

How to Install Hoods

around. this can be done with a silicone or urethane glue. Apply the glue then close and latch the hood, allowing it to cure in the correct position.

7. CARBON FIBER. On carbon fiber parts a certain amount of print through will always be visible through the paint, EVEN AFTER POST CURING AND SANDING. A certain amount of printing will always show. This is normal and to be expected. In fact, in the owners manual for the carbon and Kevlar bodied 959 there is a passage stating that you are going to be able to see the weave of the cloth through the paint and that's the way it is.



PHOTO 9
Checking for air bubbles and seam integrity before starting to sand.